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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte KARL PFLEGER and BRIAN LARSON

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Appeal 2010-000434
Application 10/802,958
Technology Center 2100

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Oral Hearing Held: June 8, 2010

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Before JAY P. LUCAS, STEPHEN C. SIU, and DEBRA K. STEPHENS
Administrative Patent Judges.

ON BEHALF OF THE APPELLANT:

        JOHN F. CONROY, ESQ. (via telephone from Germany)
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1   The above-entitled matter came on for hearing on Tuesday,

2   June 8, 2010, commencing at 9:02 a.m., at the U.S. Patent and Trademark

3   Office, 600 Dulany Street, Alexandria, Virginia, before Kevin C. Carr,

4   Notary Public.

5   JUDGE LUCAS: This is Appeal No. 2010-000434, Serial No.

6   10/802,958. Mr. John Conroy is on the telephone at this point. Mr.

7   Conroy, you are representing Google?

8   MR. CONROY: Yes, I am.

9   JUDGE LUCAS: Okay. I think it's time to start. It's 9:02. Mr.

10 Conroy?

11   MR. CONROY: May it please the Board, I'd like to thank you

12 all for providing me with this opportunity to present Google's case and for

13 considering the briefings on this issue.

14   If there are no objections, I'd like to talk first about the

15 obviousness rejection under 35 U.S.C. 103(a) and then move on to the

16 rejection under 35 U.S.C. 101.

17   In this application, Google is seeking to patent a technology

18 that improves the ranking of search results. Search results are the documents

19 that are returned in response to a search query. The documents are

20 responsive to the search query but this technology supplements the text

21 based factors that are considered in identifying responsive documents, so

22 that users can be provided with the best search results first. They are at the

23 top of the list.

24   A bit of context may be in order. I suspect that everybody is

25 kind of familiar with the idea of going to a search engine, typing in some

26 search terms and getting a list of results.

1   When large document databases such as the Internet are

2   searched, the order that the documents are returned is very important. You

3   can imagine that for a typical search query, there might be hundreds or

4   thousands or tens of thousands, however many search results are actually

5   responsive to the terms a particular user enters into the search engine.

6   Since there are so many possible responsive results, it is really

7   painful for users to go through and sort through those large number of

8   responsive results.

9   There are a couple of different ways that search engines

10   supplement the terms, kind of term-based searching, so that the best results

11   are provided at the top of the list, provided first in the list. One way and

12   kind of the way that made Google famous was they are going to look at the

13   links that are made to a document in the Internet, the thought being that if

14   somebody who posts something on the Internet bothers to link to a

15   document, that's kind of a good indicator that the person thought this

16   document was valuable, he or she thought this was worthwhile.

17   A search engine will go and count these links to kind of get an

18   idea of how worthwhile or valuable that document is and rank the

19   documents accordingly, even above other documents that are less responsive

20   to the terms of the search that are received from a user.

21   The technology in effect leverages kind of this human input by

22   linking the documents in order to rank the documents as they are returned by

23   the search.

24   The present technology also leverages human user input. In

25   this case, the search engine looks at the document selections that are made

26   by other users after they have conducted a search with a search query.

1   In other words, if documents are presented in a search result set
2   and the users often select that document, that document is ranked higher for
3   future searchers than it would be otherwise.
4   The terminology that's used in this application for this process,
5   it's used at least in a pair of the cited references or the references that are
6   cited against the document, is the term "popularity." Basically, how much
7   these human factors -- they embody these non-search term based factors that
8   reflect how likely the document is to be responsive to the search and to be of
9   interest to the people who do a search query.
10   There are two references that are cited against this application
11   that also describe how the rankings of documents can be changed based on
12   user selection, based on user interaction with previous searches.
13   Those are the Barrett reference, U.S. Patent Publication No.
14   2003-0135490, and the Bowman reference, U.S. Patent Publication No.
15   2002-0049752.
16   The Barrett reference actually serves -- it's one of the two
17   references cited in the present 103(a) rejection. Both of these references
18   work in similar ways, in that they base the magnitude of a change --
19   JUDGE LUCAS: I'm sorry, Mr. Conroy. The rejection was
20   based on Barrett and Whitman, was it not?
21   MR. CONROY : It was. Bowman was cited in an earlier
22   Office Action and kind of presents a further description of the
23   state-of-the-art, the scope and the content of the prior art that needs to be
24   considered in an obviousness rejection.
25   JUDGE LUCAS: As Bowman really wasn't part of this appeal,
26   I think it would be improper to go into Bowman at this point.

1   MR. CONROY: I did in fact mention Bowman in the appeal

2 brief. That's fine. I'll not discuss it at all.

3   JUDGE LUCAS: Can I focus you a little bit, Mr. Conroy?

4   MR. CONROY : Yes.

5   JUDGE LUCAS: Right now, we understand the rejection to be

6 based on Barrett in view of Whitman, Barrett having most of the steps of the

7 method claim, and basically ranking by a popularity index, a popularity

8 scoring, if you will. The Examiner then proposes that the number of

9 different items that Barrett uses to calculate his popularity scoring, he

10 admits, does not include looking at the search phrases and decreasing the

11 popularity based on the search query, but he turns to Whitman which scores

12 search phrases only for the teaching of basing a ranking on the breadth of the

13 search phrase.

14   He would like to basically insert Whitman into Barrett. That

15 would be the key point that would be useful for you to discuss.

16   MR. CONROY: Okay. I'll start with first of all, the idea of

17 inserting Whitman into Barrett is inserting a square peg into a round hole.

18 Whitman is interested in ranking search queries. In other words, he's trying

19 to say this search query is particularly good, this search query is particularly

20 bad. It has nothing whatsoever to do with the ranking of documents.

21   What Whitman is doing is he's looking at the breadth of a

22 search query and intending to rank search queries that are narrower, higher

23 than search queries that are broader. It's truly a ranking of search queries.

24   Whitman doesn't consider the breadth of the search query per se

25 in ranking the documents that are returned by the search query. In other

1   words, what the present claims are directed to and what Barrett actually does

2   is rank documents, not ranking search queries.

3   Further, the way that Barrett chooses to rank documents is

4   based upon -- in response to user selection. I don't want to go so far as to

5   claim it teaches away but at least hints away from the idea of making the

6   change in popularity, a decrease would increase breadth of a search query.

7   This is the feature that is actually common in both Barrett and

8   Bowman and why I was addressing both of those references, that seemed to

9   be the state-of-the-art at the time we filed. Like I said, if it doesn't actually

10 teach away from what we claimed, it at least hints away from it.

11   Both of those documents base the magnitude of the change in

12 the documents' ranking upon the position of the document in a collection of

13 search results when selected.

14   There is an equation that I've reproduced in the Brief. It's the

15 enhanced popularity score equation from Bowman. I don't know if you have

16 the equation in front of you, but there's a numerator in that equation that

17 relates to the sum of some of the products of the fact that it was selected, the

18 time and position when it was selected.

19   In other words, the numerator -- if the document that was

20 selected was the first one in a set of search results, the numerator of that

21 enhanced popularity score is very small. If the document that was selected

22 was say number 500 in a collection of search results, the numerator that goes

23 into this enhanced popularity score is much larger.

24   Although this does not directly relate to the query breadth in the

25 sense that possibly you could have a narrower query and a document was

26 selected lower within that narrower query, chances being all things being

1   equal, if user selections were distributed equally throughout the number of

2   terms or throughout the documents that were returned to the search query,

3   then this is the exact opposite of what we're seeking to claim.

4   One of the ways I kind of think of it is as a subject that was

5   very dear to me when I was an undergrad, in terms of say if I was an

6   engineer and there were 250 engineers graduating in my class. Of those 250

7   engineers, there were seven females. You might want to try to rank the

8   popularity to determine the popularity of those seven females based upon

9   their selection, the selection for some guy out on a date on a Friday night.

10   Because there was such a constrained set, a small set of

11 possibilities, you might be tempted to kind of discard that selection,

12 somebody asking them out on a date on a Friday night, because the chances

13 are there are only seven of them, there are 200 and some odd male engineers,

14 chances are they are going to get out on a Friday night.

15   On the other hand, if you have the exact opposite situation, say

16 English lit majors, where there are 250 women for ten male English lit

17 majors, every one of those selections looks a lot more important. In other

18 words, if some guy in the English Lit Department had 250 choices and he

19 chose number 60, you are generally tempted to award a greater value, greater

20 merit to that selection to say this person really had a lot of options and he

21 and she went to that one option.

22   That is exactly the situation that Barrett and Bowman are both

23 using, they are saying when a document is ranked lower in a search result

24 and selected, that is really a strong indication that document was pretty

25 popular. However, when the document is right at the top, it is not quite as

1   much of an indication because there are only a couple of options presented,

2   it's not quite as important.

3   JUDGE LUCAS: Mr. Conroy, I know with this

4   communication, it's difficult for us to break in. First of all, you have

5   discovered exactly why I took a minor in English Literature while I was in

6   engineering school.

7   MR. CONROY: A friend of mine did, too.

8   JUDGE LUCAS: Second and possibly more relevant, don't

9   you find in Whitman a teaching of the value of the few hits? I'm looking at

10   Column 5, around line 55, where he seems to recognize also the value of

11   ranking where there are few hits, that is that becomes a more valuable search

12   because the breadth of the query is far less.

13   Why would that not be an applicable teaching? By the way,

14   somewhere in the back of your brain, I'm going to ask you about 101 and

15   Claim 29. While you're giving an answer to this, understand that in a couple

16   of minutes, something like that is coming along. Okay?

17   MR. CONROY: Okay. Like I discussed earlier, Whitman is

18   concerned with suggesting search queries. The fact that a search query is

19   particularly narrow in Whitman's mind makes it more relevant, more likely

20   to be a useful search query. That doesn't have much to do if anything at all

21   with changing the popularity of the ranking of a document that's responsive

22   to a search query.

23   Frankly, the references of record both lead away if not actively

24   teach away from assigning heavier weight when there are fewer references,

25   when the search query is narrower. That has never been acceptable for

26   establishing obviousness.

1   JUDGE LUCAS: I see your point. Thank you. In the few

2 minutes that are remaining, we are all waiting here for the Supreme Court to

3 opine on the Bilsky case, but right now, the state of the law is transition or

4 tied to a machine, a machine or transition test. Let's go to Claim 29 and tell

5 me how you feel that is statutory.

6   MR. CONROY: First of all, please do understand this is a bit

7 of a moving target even before Bilsky issued by the Supreme Court. It

8 would have been fairly easy for me during prosecution to have amended

9 Claim 29 and incorporated a machine or transformation, and we wouldn't be

10 having this conversation. That said, the claim does involve documents.

11 Like it or not, documents are technology. They are a device. It's hard to

12 imagine a technology that's more fundamental to human existence.

13   Excuse me for getting kind of off the wall here. If you don't

14 have writing and you don't have documentation, we're stuck as

15 hunter-gatherers somewhere. A document is a machine. It serves a

16 technical purpose. It has a technical effect. It's intimately tied to Claim 29.

17   For example, when identifying user interaction with the first

18 document, that's identifying user interaction with a machine that serves a

19 technical purpose. Like I said, it's a very fundamental machine but it's still a

20 machine.

21   JUDGE LUCAS: Interesting. You're almost out of time. I'd

22 like to ask Judge Stephens or Judge Siu if they have any questions for you.

23   JUDGE SIU: No questions.

24   JUDGE STEPHENS: I have no questions.

25   JUDGE LUCAS: Do you want to give us a sentence to close

26 up, Mr. Conroy?

1   MR. CONROY: Just thank you very much for considering the

2   briefing and for speaking with me today.

3   JUDGE LUCAS: Thank you very much. Enjoy Germany and

4   have a good afternoon.

5   Whereupon, at 9:22 a.m., the proceedings were concluded.